IN THE CLAIMS

1. A method for automatic I/Q balancing for packets of an incoming signal, comprising:

resolving said incoming signal into I and Q signals;

computing packet-fixed correction coefficients from said I and Q signals during a measurement section for a packet; and

correcting at least one of I/Q gain and I/Q phase of said I and Q signals with said packet-fixed correction coefficients for providing corrected said I and Q signals for said packet.

2. The method of claim 1, further comprising:

delaying said I and Q signals by at least said measurement section; and

wherein the step of correcting includes correcting said at least one of said I/Q gain and said I/Q phase of said delayed I and Q signals with said packet-fixed correction coefficients for providing said corrected I and Q signals.

3. The method of claim 2, further comprising:

detecting pre-delay averages for said I and Q signals for a time period not greater than said measurement section before the step of delaying said I and Q signals; and

using said pre-delay averages for reducing DC offset from said delayed I and Q signals before the step of correcting said I and Q signals.

4. The method of claim 1, wherein:

the step of correcting includes using said packet-fixed correction coefficients for correcting said at least one of said I/Q gain and said I/Q phase for a portion of said packet only after said measurement section of said packet for providing said corrected I and Q signals.

5. The method of claim 4, further comprising:

detecting averages for said I and Q signals for a time period not greater than said measurement section; and

using said averages for reducing DC offset of said I and Q signals for a time period of said packet after said measurement section before the step of correcting said I and Q signals.

6. The method of claim 1, wherein:

the step of correcting said at least one of said I/Q gain and said I/Q phase is performed only after the step of computing said packet-fixed correction coefficients.

7. The method of claim 1, wherein:

the step of computing packet-fixed correction coefficients includes computing first and second correction coefficients using a finite number of indexed I values for said I signal and said finite number of indexed Q values for said Q signal; where

a first term includes a cross correlation of said I values and said Q values;

a second term includes an autocorrelation of said Q values;

a third term includes said first term divided by said second term;

a fourth term includes a sum of absolute values of said Q values;

a fifth term includes a sum of absolute values of a difference of said I values minus a product of said Q values times said third term; and

said first correction coefficient includes said fourth term divided by said fifth term.

8. The method of claim 7, wherein:

said second correction coefficient includes the negative of said third term.

9. The method of claim 7, wherein:

said second correction coefficient includes a negative of a product of said first correction coefficient and said third term.

10. The method of claim 1, further comprising:

demodulating said corrected I and Q signals for estimating data carried on said incoming signal.

11. A signal receiver having automatic I/Q balancing for packets of an incoming signal, comprising:

a quadrature converter for resolving said incoming signal into I and Q signals;

an IQ coefficient calculator for computing packet-fixed correction coefficients from said I and Q signals during a measurement section of a packet; and

an IQ balancer for using said packet-fixed correction coefficients for correcting at least one of I/Q gain and I/Q phase of said I and Q signals for providing corrected said I and Q signals for said packet.

12. The receiver of claim 11, further comprising:

I and Q delay devices for delaying said I and Q signals by at least said measurement section; and wherein:

the step of correcting includes correcting said at least one of said I/Q gain and said I/Q phase of said delayed I and Q signals with said packet-fixed correction coefficients for providing said corrected I and Q signals.

13. The receiver of claim 12, further comprising:

an average detector for detecting pre-delay averages for said I and Q signals for a time period not greater than said measurement section before the step of delaying said I and Q signals; and

an average corrector for using said pre-delay averages for reducing DC offset from said delayed I and Q signals before the step of correcting said I and Q signals.

14. The receiver of claim 11, wherein:

the IQ balancer uses said packet-fixed correction coefficients for correcting said at least one of said I/Q gain and said I/Q phase of said I and Q signals for a time period of said packet only after said measurement section for providing said corrected I and Q signals.

15. The receiver of claim 14, further comprising:

an average detector for detecting averages for said I and Q signals for a time period not greater than said measurement section; and

an average corrector for using said averages for reducing DC offset of said I and Q signals for a time period of said packet after said measurement section before the step of correcting said I and Q signals.

16. The receiver of claim 11, wherein:

the IQ balancer corrects said at least one of said I/Q gain and I/Q phase only after the IQ coefficient calculator calculates said packet-fixed correction coefficients.

17. The receiver of claim 11, wherein:

the IQ coefficient calculator computes first and second said correction coefficients using a finite number of indexed I values for said I signal and said finite number of indexed Q values for said Q signal; where

a first term includes a cross correlation of said I values and said Q values;

a second term includes an autocorrelation of said Q values;

a third term includes said first term divided by said second term;

a fourth term includes a sum of absolute values of said Q values;

a fifth term includes a sum of absolute values of a difference of said I values minus a product of said Q values times said third term; and

said first correction coefficient includes said fourth term divided by said fifth term.

18. The receiver of claim 17, wherein:

said second correction coefficient includes the negative of said third term.

19. The receiver of claim 17, wherein:

said second correction coefficient includes a negative of a product of said first correction coefficient and said third term.

20. The receiver of claim 11, further comprising:

a digital IQ signal receiver for demodulating said corrected I and Q signals for estimating data carried on said incoming signal.